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Devoted to the interests and advancement of school health service and instruction. Your participation by membership is solicited.

Vol. XXII FEBRUARY, 1952 No. 2

MEDICAL ADVANCES AND CHILD HEALTH*

JOHN W. CLINE, M.D.

President, The American Medical Association

It is a pleasure to be with you and bring you greetings from the American Medical Association. I am pleased to be here this evening because it gives me the opportunity to pay my respects to an important segment of the medical profession. Although school physicians may be relatively few in number, they make a large contribution to the health of the nation.

Another reason why I am glad to be here is that I welcome the opportunity to commend the other workers in your organization who are partners in this important task,—the nurses and educators who, along with physicians and dentists, make up the school health team. We wish you to know that your efforts are not unrecognized. Your work is seldom spectacular but in the long term picture it is as significant as the results achieved in the research laboratory or on the operating table. What you do in education, prevention and protection may conserve and save as many lives as do the "wonder drugs" or the surgeon's scalpel.

Physicians who serve schools, often with little professional recognition, have earned a solid place in American medicine. In his many contacts with children and youth the school physician is conditioning attitudes toward health and disease, toward medical care and toward physicians in general.

The contribution of the nurse in the school is equally deserving of our acknowledgment tonight. She whose never-ending rounds in the school, in the homes of the children she serves and in the community carries out an assignment that is as important as it is demanding in its requirements. As a friend to the children, an interpreter to the parents and a helper to the physician, she plays a vital role.

The educator, too, is entitled to recognition. His is the task of putting the advances of medical science to work. He has the job of interpreting scientific advances and of supplying the motivation

* An address given at the Annual Dinner of the American School Health Association at San Francisco, October 31, 1951.

that induces people to make use of them. A new modality or improvement in medical skills achieves its greatest value only when the people have learned to understand it and willingly take advantage of it.

These are words and you would prefer tangible evidence of the support of the medical profession and of its national organization in your endeavors. I would be remiss in my duty if I failed to sum up for you some of the illustrations of this support.

You all are familiar with the work of the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association, which last January celebrated its fortieth anniversary. (1) Most of you have made good use of the committee's publications, which now aggregate more than forty. Twenty of these are still current and widely used in the nation's schools.

Down through the years the Bureau of Health Education staff has devoted much of its time and effort to school health work. Doctor W. W. Bauer, Director of the Bureau, served as Secretary of the Joint Committee of NEA and AMA for many years. He was also a member of the Year Book Commission which prepared the guide "Health in Schools" for the American Association of School Administrators. Doctor Bauer's long-standing interest in school health paved the way for other developments in this area in the A.M.A.

In 1945, the medical profession gave further evidence of its interest and concern when two full-time employees were added to the staff of the A.M.A., Bureau of Health Education, to work with you and similar groups on school health problems. Both Doctor Hein and Doctor Dukelow have been active in the American School Health Association and you know of their other work. We hope that they have been helpful and the reception they have received from constituent medical societies, school health associations, educational groups, public health organizations and other agencies has led us to feel that their efforts are worth while.

For the past several years we also have budgeted for biennial Conferences on Physicians and Schools (2), the third of which is to be held next week in Highland Park, Illinois. There is every indication that these Conferences have served to clarify relationships between medicine, education and public health in school health work, and to better define the role of the private medical practitioner in this program.

In passing may I remind you of the numerous articles in

TODAY'S HEALTH (formerly HYGEIA), on school health; the network broadcasts and radio transcriptions produced by the Bureau of Health Education on this subject (3); the many pamphlets that have been and are being distributed (4); the studies which have been made and are under way (5); and the question and answer service available to educators and other school health personnel as well as physicians.

I call these things to mind not with the intent of overvaluing the work that has been or can be done by our national organization but merely as a means of assuring you of our continued interest and support. I offer this assurance with the full realization that many knotty problems in school health, as in other areas of health, must be solved at the "home town" level—by the co-operation of the physicians, dentists, nurses, educators and the other important workers in every locality. This is as it should be; it is the truly American way—the democratic way. But we want you to know that we shall be happy if we can play a part in stimulating and reinforcing your efforts.

Where do we go from here? How does the past compare with the present? What can we expect for the future? I see clearing weather and bright horizons ahead. Let us look at the picture.

Your workaday world deals with children who have something wrong with their health, just as the private physician's is filled with the sick and the troubled. At times current problems may blind us to the fact that we are making progress.

Whether you are a school physician, nurse or educator, you have more children to deal with today than you had even a few years ago. This does not result entirely from compulsory education laws or the recent "E" war production of babies. It, also, is a fact that a greater proportion of children will survive infancy and the pre-school period to attain school age. The chances of living to school age are now better than 96 in 100, while at the turn of the century almost one-fifth died before they could begin the first grade (6).

The school years always have been a healthy period of life and now the probability that a child of six will live to attain eligibility for graduation from high school has reached an all-time high of 99 out of 100 (7). Not only do you have more children to work with but you have the opportunity to work with them longer during their formative years.

The children you deal with will be taller and heavier than were their fathers and mothers. Studies of successive generations

of students in some of our schools and colleges, as well as Selective Service figures, demonstrate this fact (8). A look at some of our modern basketball squads will further emphasize it. It has become almost true that if you cannot reach up to the basket without standing on tiptoe you have little chance to make the team. Even among our less privileged groups, improvement has been made. Studies of the stature of prison inmates reveal comparable gains (9). This increase is not confined to the male; similar progress is recorded for girls and women. There is evidence to show that the feet of the fair sex are growing larger, although some of you may not regard that as a health advance.

In your schools not too many years ago a series of sore throats would have struck terror in your heart. Devastating epidemics of diphtheria returned year after year, closing schools and killing large numbers of children. Today the death rate for diphtheria is less than one for every two hundred thousand of our population (10). In fact, mortality from all the principal communicable diseases of children for ages 1-14 has now been reduced to about 2.5 per 100,000 (11). Like typhoid and smallpox, whooping cough is on its way out (12) and measles mortality has been reduced tremendously.

The truth is, communicable disease control, a major reason for instituting school health services in the early history of your Association, is now among the lesser concerns of school health work.

We have no sure preventive for pneumonia and influenza but new treatment methods, including the use of the antibiotics, have lessened the power of these diseases to kill. In the short period since 1930, we have witnessed a decline in the death rate from these causes of more than 86 per cent (13). We are winning the battle with tuberculosis. We now have the "know-how" to eliminate the "white plague" as a health menace within the lifetime of some of us here tonight.

We are gaining painfully slowly in our struggle with rheumatic fever and heart disease, poliomyelitis and cancer but the future will see great advances against them as well. These diseases now rank as major causes of death among children, because the former killers have been eradicated or brought under control. All along the line there has been steady progress and with the power of our research focused on these diseases there is hope that you and I may see the day when they will suffer the fate of what perhaps may now be termed the uncommon diseases of childhood.

Children who were born in 1900, and went to the little red schoolhouse of that day, had a life expectancy of about 49 years. Those born today, who will attend our modern schools, can anticipate a life span of almost the proverbial three score and ten (14). Though the female of the species bears the larger portion of the burden in perpetuating the race, she is destined to a little longer life than her husband (15). The fact is, girls in your high schools today can look forward to motherhood with an assurance of surviving pregnancy that marks one of our greatest achievements. The American mother of today has 999 chances out of 1000 to come through childbirth safely. Her chances are more than six times better than they were in 1933 (16).

What about Selective Service figures—statistics from World Wars I and II, and now those for the Korean "incident"? For years these have been widely quoted to prove that we are a nation of weaklings, with millions of our youth unable to serve effectively in peace or war. Neither the schools nor the medical profession should fall into the trap of using these figures to justify any phase of our health program. If we do we are doomed to be discredited. After World War I these statistics were used in pleading for the development and expansion of the school health program and physical education. What happened? The statistics for World War II remained substantially the same. Were your efforts, were the efforts of medical science and public health in vain? Of course not, we all know, as does every student of vital statistics, that rejection rates for military service are not a valid index of the nation's health or even of the persons examined.

Changing arbitrary standards were used. Rejection rates were based on the number of examinations and many rejectees were examined several times. Many individuals were turned down more than once. As a result, the incidence of defects is multiplied and rejection rates are exaggerated. Large masses of volunteers were not commonly included. Rejections based on educational deficiencies as such and those having relationships to physical health further distort the picture (17).

Careful analysis discloses that a large proportion of the causes for rejection such as asthma, heart enlargement, flat feet, amputation and epilepsy cannot in any known way be prevented or corrected. The former Medical Director of Selective Service, Dr. L. G. Rowntree, estimated that rejections for remediable defects probably constituted only about 15 per cent of all rejections (18). Dr. Maurice Friedman, another careful student of these statistics, has

suggested a slightly higher figure (19).

Neither the school health program nor the work done in preschool and adult years can prevent certain diseases or impairments. No known measures can bring the victims of certain accidents and illness up to the standards used by the armed services. A great number of these same young men and women, however, may be helped to live useful lives and can support themselves and their dependents. Some are even capable of earning their livelihood in the most strenuous kind of professional athletics even though they may be suffering from a condition that prohibits them from serving in the military.

As a matter of fact, if our health goals were to be set in terms of fitting our youth for military service, we could achieve the greatest measure of success by turning back the pages of time and returning to the unthinkable Spartan philosophy of eliminating the unfit. We have dedicated our services, however, to preserving life despite conditions that render youth unsuitable for the demands of military service (20).

Research is the watchword of today. Because of research there are "blue babies" in your school who are no longer blue. There are diabetics who can play and run and live happily. We add a pinch of iodine to salt and the big necks of simple goiter fade away. We enrich bread, irradiate milk, nourish the soil, and fluorinate the water. The antibiotics, cortisone, ACTH and radioactive isotopes mark a scientific era unfolding too rapidly to visualize clearly. We are on the threshold of achievements unparalleled in medical history.

We still have problems. With our attention centered on disease, another monster has reared its head. As yet, we have not learned how to "immunize" children against accidents. The records show this to be our greatest child health problem. Deaths from accidents among primary school children are six times as numerous as the combined fatalities from pneumonia and influenza, next in line and perhaps the most feared of childhood diseases (21). In older children, accidents outrank diseases of the heart, second among the killers, by nearly five to one (22). We have made some progress but we have much to do and much to learn before we can even approach our achievements in dealing with disease.

We have another big problem area. It is not enough to arrest disease, to reduce accidents, and to preserve lives. We also must be concerned with making these lives full, happy and productive.

There are health needs of the children in your schools which are subject to correction. We must get these conditions under treatment. The primary responsibility lies with parents, and if we are to do our part to preserve the American Home and all that it has meant to our democracy we should do nothing to promote abdication of this responsibility. The school's role is vigorously to encourage parents to obtain prompt treatment. The community must bear the responsibility of working out methods to provide for those whose parents cannot afford the needed care. I am deeply conscious of the obligation of the medical profession in this regard. We have done much to lead the way in solving this problem and must continue our efforts.

The children in your classrooms probably have about the same percentage of remediable defects as are found in examining an older group for military service. Let us for the purpose of discussion put the figure even higher and say that 25 per cent of health needs can be corrected. This means that 75 per cent of the health problems of our children may be of a type which demands adjustment of the school program to fit the needs of these children. This proportion may become even greater. Every time a child's life is saved by medical science, a further problem of adjustment may be created. Meeting the needs of the crippled, the cardiac, the epileptic, the partially sighted, the hard of hearing, the diabetic and others creates a tremendous educational problem. Your job becomes one of helping such children to get the best possible education and to learn to live best in spite of their limitations. Many, if not most, of us have some so-called defect with which we have learned to get along. The real difference among us is in the degree of these defects and in our capacity to adjust ourselves to them.

When some of us were in school, truancy was probably a greater cause of absence than illness. Today the picture has changed. Studies of this problem have the obvious limitations that all morbidity studies do, but there is good evidence to show that about eighty per cent of school absences today are due to illness (23). About half of this illness falls into the category of respiratory diseases and you, least of all, need to be told that the greatest offender is the common cold. Digestive disorders rank next in order in published studies and surprisingly enough skin diseases are high on the list (24). With these problems, there is a common element; our best resort today is health education. It is a challenging job and one in which education, medicine and public health all must play important roles.

We have a tremendous problem in mental health. We are just beginning to learn that parents, educators and physicians need to know how to deal with the anxieties, fears, and frustrations of children. We recognize that these can grow into serious mental conditions in the adult. In dealing with these problems, nothing is more vital than security—security that stems from sincere affection in the home, warm, sympathetic understanding in the school, and a valued place in the community and its affairs.

To achieve this goal, the school, the home, and the community must be organized to assure the child happy, satisfying experiences each day. You and I have broad responsibilities as citizens as well. We must share, and at times lead, in efforts to make our communities wholesome, safe places for children and youth.

Tonight I have spoken largely of the gains that we have made in child health, and I have mentioned some of the problems that lie ahead of us. Several factors have contributed to the progress we have made. Great advances in medical science have decreased mortality from many infections to a fraction of what they have been in the past and almost wiped out others.

Development of public health services has, among other things, improved our water and food supplies and brought about the safe disposal of waste products. Better techniques and methods of health education have made possible a fuller appreciation of good health by our children, our youth and the public as a whole. One of the greatest influences has been the high standard of living we enjoy—by far the highest in the world.

We have made progress in another direction as well. With the advances in the medical and allied fields and their disciplines has come an increased ability to work together. We are learning how to delineate our responsibilities on the basis of professional qualifications and skills. We are learning to do this with due respect for the framework of our systems of public education, public health and the private practice of medicine. We are proving that teamwork, in the good old American fashion, even with its gropings, its slowness and apparent shortcomings, is, after all, the best and surest way.

We have reached a point in health progress from which it becomes increasingly difficult to advance further. To progress further will require greater effort than we have yet made, but a free way of life which stimulates individual initiative and encourages group action will assist us to reach the goal.

The best kind of co-operation and the closest kind of co-or-

dination between education, medicine, dentistry, and public health will be required. None can move ahead without the others. Only through voluntary teamwork can we be effective in helping the children you serve and all our people to gain the full values of preventive and therapeutic medicine.

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THE VALUE OF THE WETZEL GRID IN A SCHOOL HEALTH PROGRAM AND PROBLEMS RELATED TO ITS USE

Preparation of Personnel for Use of the Grid

ROBERT W. DEISHER, M.D.

Experiences in the Introduction and Use of the Grid in the Schools of King County

ELIZABETH BRYAN, M.D.

Manual Prepared for Teaching Sessions in Use of the Grid

Several years ago a joint committee of the Washington State Department of Health and the Washington State Department of Public Instruction undertook to study school health records used in order to make recommendations to the state.

After study and consultation with representatives of the medical society, they recommended that where there was interest in changing the school health record the Wetzel Grid be considered.

In view of this recommendation, the State Department of Health asked if some of the training could be given by the Child Health Center of the University of Washington. The Child Health Center seemed an appropriate place inasmuch as most of the teaching of growth and development at the University is done there. Also, the staff of the Child Health Center was already familiar with the Wetzel Grid as this method was being used to follow children at the Center.

The instruction was given both by institutes held at the Child Health Center and at teaching sessions held locally in interested areas by Center personnel. The general plan of instruction has been similar in all sessions although variation has been necessary depending on the particular interest of the members of the group and their familiarity with the grid.

It is very important that wherever there is an interest in the grid that someone take the responsibility for the project. This person should learn as much as possible about the grid and then take the lead in teaching others. Teachers, nurses, local physicians and P. T. A. are all essential elements in a successful grid program and neglect in informing any of these groups may mean the failure of the entire project.

The most important thing was, of course, to give the persons attending sessions some knowledge of the grid itself. This was most effectively done by the use of slides, since the audience was

able to follow the speaker's explanation much more satisfactorily than when each person held a separate grid.

The most useful slide has been one showing the complete face of the grid on which is plotted the record of a child with very good growth. With this record can be shown the method for determining points when plotting a child's growth pattern. It has been found valuable to explain the significance of the various lines such as physique channels, developmental level lines and auxodromes. At this time also it has been mentioned that the grid is practical for use in screening programs such as in schools since measurements required are made routinely in most schools, namely height and weight.

The value of the grid in allowing each child to be his own standard of comparison in contrast to comparing each child with average values is brought out too.

After this slide several others are shown to illustrate the differences of children in regard to physique and developmental level.

Next follow a number of examples of poor growth. These represent children with several diseases, diabetes, allergy, rheumatic fever, etc., as well as with malnutrition and psychological problems.

It is important to point out that every child in growth failure need not have a medical disease, but that there are other conditions that can result in poor growth. The value of thorough study of each child showing poor growth cannot be overemphasized as often such things as too hard a daily schedule may be responsible for a child not growing in the most satisfactory way. It is of value to demonstrate that the grid can give information only as to whether or not a child is growing well and that the general pattern of growth failure is the same regardless of cause. In other words, poor growth, but not its cause, can be diagnosed by use of the grid.

It is also of value to show two children who both have very stocky builds, and therefore are usually classified as obese. One child has consistently maintained this type of build and has remained in the same physique channel as well as having a speed of growth curve parallel with the higher auxodrome. The other child is likewise very stocky, and, I might add, indistinguishable from the first by height and weight evaluation alone, but has a curve that deviates to the left on both physique and auxodrome panels and thus shows abnormal obesity.

As a last slide one showing the percentage of satisfactory and unsatisfactory growth in a large series of school children is useful.

Here one should point out that the grid as with any other similar method of following growth is not meant to replace the physician, and there are certain conditions which may exist in the presence of good growth and still need attention.

The grid is merely another tool for screening of children which will, when used properly, increase the number of children who can be selected as having a need for more extensive study. It is not expected to replace other effective methods of screening, but be used in conjunction with them so that a more thorough job can be done.

Following the explanation with slides, a session in plotting is given—depending of course, on the group and the extent of their interest in the grid. There is no substitute for the actual experience of putting the points on the grid. The direction sheets prepared for use at these sessions give a list of desirable equipment, two examples to be plotted and step by step suggestions for use in plotting. The examples were chosen from published articles so that anyone interested could refer back to the article to check his own plotting or his own analysis.

For use in the institutes and teaching sessions, a mimeographed pamphlet was prepared so that those interested would have a written record of the suggestions and recommendations. A copy of this pamphlet is included at the end of this article. The pamphlet includes a section on introduction of grids into schools, some instructions regarding plotting of grids and a bibliography with notes about some of the articles listed and the name and address from which further material could be obtained.

Material for the working pamphlet was derived from many sources, but chief among them has been the experience in introducing the grid into the schools of King County.

I should like to ask Dr. Bryan of the Seattle-King County Health Department to tell you about this.

While it has fallen to me to report our experiences with the Wetzel Grid in the schools of King County, it should be emphasized at the beginning that all of our work as we proceeded was done, and all of our conclusions have been made after careful consultation with as many people concerned as possible. From the Fall of 1949 when the first conference was held with Dr. John Wilkey,

the Maternal and Child Health Director of the Seattle-King County Health Department under whom the school health services in King County are administered, until the present time many persons have contributed thoughts and ideas. It would be impractical to include them all by name, but the nursing supervisors of the districts in which the grid has been used, the school administrators, the principals, the public health nurses, the teachers, the P.T.A. representatives, the local health councils and the local physicians in many or all of the school districts in which the grid has been used have participated in the planning and the work of getting the grids started. Also, Dr. Wetzel has been very helpful both by letter and at personal conferences in Cleveland.

Two years ago when I started working for the Seattle-King County Health Department, I had had fairly extensive clinical experiences with the use of the grid at the St. Louis Children's Hospital and was thoroughly convinced of its value for evaluating the quality of growth of children and for detecting early deviations from normal growth. Since the health department was interested in trying the grid as a screening device in the schools, we decided to start a small project from which we might gain experience for use in the rest of King County. As time has gone on and with the demonstration to the school personnel that the grid can help in leading to a better understanding of children, the schools have participated more and more in the planning and administration of the program, and the health department has assumed an advisory and consultative role as far as is possible.

In general, the plan used in institution of the grid in that first school has been followed in subsequent ones, with variations, according to the particular community. The plans and principles which have developed have for the most part been incorporated as suggestions in the working manual.

The importance of careful and thorough planning with representatives from all the groups concerned cannot be overemphasized. In order to get the greatest value from the use of the grid it is necessary that teachers, nurses, parents and physicians be kept informed as the work progresses. We have done this by literally dozens of group meetings — health department personnel, superintendents, school boards, hospital medical staffs, P.T.A. councils and groups, teachers' meetings, health councils, principals, health and physical education teachers and certain non-professional community groups—and by written reports such as in the County Medical Bulletin, certain teachers' bulletins, and even in

the local newspaper. At all these meetings it is desirable to indicate to the audience the possible uses and value of the grid, and it is also extremely important to temper the enthusiasm, which almost invariably results by discussing the amount of just plain hard work and repetitious teaching, which is necessary in starting the use of the grid if greatest value is to be obtained.

Since so much importance is being accorded height and weight measurements, it has been necessary to recheck equipment used for obtaining these data. Several of our schools found it necessary to send the scales away to have them checked. In all the schools it was necessary to provide a new type of apparatus for taking accurate heights. Sometimes the manual arts department provided the measuring board. In one instance the principal himself made it. Also the recommendations for measuring and recording were re-evaluated and revised and a uniform set of recommendations was released in all the schools, whether or not grids were being used at that time. Consideration, too, was given to the fact that it is an almost impossible task for a teacher with a class of 35-40 small children to weigh and measure them and record the measurements accurately with no adequate assistance. So it was advocated that help be provided for the teacher. Again different plans have been used, according to the method the principal and his teachers thought was best for them. In some instances, a small group of two or three responsible mothers have been trained to take and record the measurements and have measured all the children in the school. In some, the room mothers have helped their teachers. In one school the vice principal did all the weighing and measuring for the school.

Another problem which always confronts a school district which considers adopting grids is that, if the past measurements in the school records are to be used, how are they to be transferred and plotted? It is a tremendous clerical job to consider. Both because none of the districts in which we have been working felt they could afford financially a clerk to do this job, and because community participation seemed desirable, we decided to try using volunteer help to do the original plotting job. So far this method has seemed quite satisfactory. Four volunteers for as big a school group as 1000 children have been able to do a very adequate piece of work. The mothers have been very carefully selected, usually by the principal and nurse, on the basis of eyesight, dependability, discreetness and interest. They have been taught to transfer material from the health cards to the grids and to plot the points

on the grid. They have been cautioned that they are handling confidential material on their neighbors' children and that their good judgment is important. So far there has been no difficulty with material being released, which should not have been, and we have found that these mothers have provided a good nucleus of interest and teaching in the community. It takes approximately 175 total hours for a crew of four newly trained volunteers to transfer material and to plot 1000 grids of children from kindergarten through the sixth grade. One caution here is that it has proved to be quite worth while to spend enough time in the initial training sessions to be sure the volunteers not only understand the principle of the grid and the plotting, but to see that they are doing the work accurately. This may save many hours of checking later. One nurse and I found ourselves having to check some 800 records after they were all done, because one of the plotters made repeated errors and we did not know which were her grids.

One point that always arises is whether or not, considering the inaccuracies which are known to be in the recorded height and weight values, it is worth the time and effort necessary to transfer and plot old data. In general, we think it is as long as when the grids are sorted, these possible inaccuracies are remembered and the sorter is willing to have a far greater number of grids showing questionable growth, than would ordinarily be found if the measurements were taken accurately under uniform conditions and recorded accurately. There are enough records which show definitely acceptable growth and enough which show definitely poor growth to make the old data valuable.

After the grids were plotted they were divided into those showing patterns of acceptable growth, those showing patterns of poor growth and those in which the pattern was questionable. The children whose grids showed poor growth were scheduled for inspections and conferences with the parent, teacher, nurse and physician, in the same way that children screened by other methods such as teacher-nurse conferences are scheduled. Unless a parent of the child was present his inspection was postponed. At each conference the principles of the grid method of screening are explained briefly to the parent by the teacher, nurse or physician. The child's record is considered and an attempt is made to see whether a cause of failure can be found in any one of the three categories of causes: medical, emotional and nutritional, including schedules and rest.

Following these conferences referrals were made to what

appeared to be the appropriate sources for further study and diagnosis. The first time a child was referred to a physician because of the growth failure alone, a letter was sent directly from the health department physician explaining the method of screening used, reporting the grid findings on the child and any significant results of the conference. Other later referrals to the same physician were made on routine referral slips.

From the work on the grid-screened children many interesting findings have resulted. In many instances it is too early yet to say positively that the conditions or situations discovered are the cause of the growth failure in the child, but it is possible to say that particular findings were made and needed attention. So far we have had 374 conferences on children showing poor growth. The classifications of conditions found which needed further study or care are as follows: medical 154, emotional 59, nutritional 85, no hint as to trouble 84. Sixty-eight of these children were already under care for some condition which might be the cause of the growth failure. One hundred ninety-seven children were referred to the family physician for further evaluation, 19 to a psychiatrist or psychiatric clinic and 17 for psychological testing and the others were marked to be observed carefully but no referral was made.

A number of problems which have been discovered were not totally unrecognized before, but were not of definite enough character so that the observers had referred the child for consideration. With the added support afforded by the grid that something was wrong with the child the teacher often related observations of a very significant nature.

Some growth recoveries have already occurred.

On the other hand, with these screening methods as with any other there are some conditions brought to light about which we seem to be able to accomplish nothing.

Interest and enthusiasm has spread rapidly in King County. The number of schools using grids as health records has increased from the one school which the Health Department asked to start two years ago to include *16* schools in *7* different school districts. This represents about 6200 children. At the present time plans are being made to include other schools in the districts already started and for starting schools in two more districts. The school administration and teaching personnel have taken more and more of the responsibility for the organization and administration of the projects.

We have felt that so far, in addition to some of the actual physical recoveries that have been obtained, of even greater value have been some of the more intangible results. The fact that not only are referrals made to the health service by the teacher, but that the nurse and school physician now choose some children for evaluation has been a basis for a much closer relationship between the two groups. Also the subtle difference between a referral from a teacher of a child "who has not gained weight" in the preceding few months and a referral in which a child is labelled "too thin" is important. This kind of thinking we have noticed even in schools where the grid is not being used as yet, but the teachers have learned about it. The many expressions from teachers regarding the increased understanding they have of certain of their pupils has been most gratifying. And some of these have been from teachers who, at first, were very resistant to a new procedure requiring a different kind of thinking on their part.

There are certain other uses of the grid which should be mentioned. The nurses and teachers are finding it of value in counselling with the older children, sixth graders and older, in regard to need for adequate diet, rest and time for relaxation.

Also as there are more junior high students with grids the physical education teachers are beginning to use grid status as a basis of classification for the physical education activities. In this way more uniform groups of children can be obtained and a child can be allowed to compete with his peers rather than merely with others in his same age or grade group.

In conclusion, we have found the grid to be very helpful to us in conducting our school health program. We would strongly recommend that it not be used to replace other methods of screening which have been useful, but be added to them. We feel that to obtain greatest value from use of the grid requires a great deal of preparation, planning and work. If these can be provided the grid is recommended for use in a school health program.

MANUAL PREPARED FOR USE IN INSTRUCTION SESSIONS ON USE OF THE GRID AND INTRODUCTION INTO SCHOOLS

Child Health Center, University of Washington
Seattle-King County Health Department, Washington

INTRODUCTION OF GRIDS INTO SCHOOLS

1. For successful introduction it is recommended that someone with sufficient knowledge of the grid and its use be recognized as the person to take the lead and responsibility in guiding the project.

   The question often arises as to how many schools should be started at once. In general it is suggested that the project be started as a small one and allowed to grow with the first center being used for teaching and demonstration if necessary. One elementary school in a system is usually about the right size if the director of the project has had a fair amount of experience with grids. If no one has had much experience it might be better to start with only the new children in the school and gradually expand from these. One reason for this suggestion is, that there are so many gross inaccuracies in the old height and weight records that there is some definite question as to their value.

2. Enlistment of community support:

   Definite and detailed plans should be made by the sponsoring agency before use of the grid is started.

   All those concerned with the children—health department personnel, teachers, physicians, parents—should be kept informed of the progress of the project. This requires explanations at preliminary meetings of health department and department of education staffs, at County Medical Society meetings, at teachers' meetings, at P.T.A. meetings and at meetings of other interested groups. The more intelligent interest that can be obtained the greater is the chance of operating a successful project. Explanatory notes or progress notes may be put from time to time in such publications as the Bulletin of the County Medical Society, or a teachers' bulletin.

3. Checking of equipment used for measuring heights and weights of children, of methods used and of method of recording.

   1) Equipment:
      a) Weight scale, should be a platform, beam type, in good repair and balanced before each use.

b) Height scale, should be at least an accurate tape against a flat surface. Easily made is a very satisfactory apparatus:

1-foot-wide flat board with scale accurately graduated in ¼ inches.
2-foot-square platform

c) Board about 1 inch thick cut in shape of right angle triangle with sides about 8 and 6 inches is helpful.

d) Equipment should not be moved from room to room but should be kept in a central point and the children brought to the measuring room.

2) Methods of taking heights and weights.

a) Height and weight should be taken same day.

b) Conditions should be kept as nearly standard as possible

1. Remove shoes
2. Remove extra clothing, sweaters, etc.
3. Empty pockets of heavy objects—marbles, etc.
4. Have child back against measuring board with head, shoulders, buttocks, and heels touching board and feet together.

c) Measure to ¼ pounds and ¼ inches.

d) It is suggested that measurements be made at least every six months as in October and April.

3) Methods of recording.

a) Each observation should be dated.

In order that more accurate measurements may be made and recorded it is suggested either that the teacher receive some extra help in doing these measurements or that a crew of 2 to 6 interested mothers be trained and asked to measure and record measurements of all the children in the school.

4. Plotting of data in old records:

a. This may be done by a hired clerk or by volunteer help. In either case it is advisable that someone with experience in plotting work with those who are to do the job, checking each point plotted until the plotter has attained a good degree of accuracy. This probably will take 2 or 3 plotting sessions and requires that each person plot 10-30 grids.

If volunteer help is used it is suggested that they be chosen very carefully with regard to interest, dependability, discreetness (as they will be using confidential school records)

and eyesight. A crew of 4 to 6 probably is about the best size. In certain areas it has taken a total of about 140 volunteer hours for a crew of 4 to transfer data from pupil health cards and plot records of about 800 children ranging from kindergarten through sixth grade.

b. In transferring measurements from the pupil health card there are many inaccuracies which will be noted. Often the entries are not dated. In this case it is suggested that for the fall measurement the entry on the grid be marked "F" as F-1945, for the spring measurement "S" as S-1946. Then 2 months such as October and May be chosen arbitrarily to use in calculating ages for these entries. Obviously this introduces a definite error.

5. Sorting of grids.

After grids have been plotted it is necessary to sort them. There are three categories.

a. In those showing satisfactory growth the child's physique has been well maintained and his growth schedule has followed closely that expected for him.

In case there is only one measurement available for a child his growth is considered satisfactory for the time being if his physique is B, M, A, or A_2 and his point on the auxodrome panel is about as high as the 67% auxodrome or higher. It might be best to classify all children with only one measurement as questionable so they would be checked sooner than those showing satisfactory patterns.

b. In those showing questionable growth the child's physique and his growth schedule show some variation from that expected but not enough to put him in the unsatisfactory group.

c. In those showing unsatisfactory growth at least one of the following conditions will be found:

1) Failure to keep to channel with loss or gain of more than ½ channel per 10 levels of advancement.
2) Failure to keep to level with developmental lag exceeding 5 levels.
3) B_3 physique or lower.
4) Highly retarded schedules of growth (82% auxodrome or later)
5) Irregular channel or auxodrome patterns.

6. Procedures after sorting of grids.

Children with satisfactory growth still deserve at least quick

inspections and consideration if they show signs or symptoms of disease. The grid is not intended to replace all other methods of screening children but to be added to other effective methods.

The children showing unsatisfactory growth should be referred through proper channels, according to the community, to sources from which diagnosis and treatment can be obtained. It is important to remember that there are other causes of growth failure than actual medical disease and that frequently even a very thorough physical examination will show no abnormality to be present.

7. Use of Back of the Grid.

This is designed to be used as a school health record card. The details of its use will be determined by the local administrators.

Possible uses of the grid in schools:

1. Screening and assessment of school children.

The grid will show only whether or not a child is growing well. The cause of any growth failure cannot be determined by the grid.

2. Use in education of children and parents.

Children understand the idea of the grid at a fairly early age and may help keep their own records at times. It is a method by which children and their parents can be taught more about normal growth in general and about their own growth.

3. As a guide for physical activity of a child.

Physical education and physical activity programs can be planned on a more individual basis. For instance, a child showing growth failure probably should not be allowed to participate in competitive sports.

GRID PLOTTING

In studying the grid and its use it is desirable that a session in plotting grids be planned as this is the best way to learn certain points about the use of the grid.

Equipment desirable.

1. 2 size pens, fine point and broader point
2. Sharp razor
3. Red pencil
4. Filing card
5. Scratch pad

Data to be plotted:

The following examples are chosen because in each instance an article has been written in which the plotted grid is printed. Therefore, a person can refer to the article to check his plotting or ideas if he wishes.

Example I—Case T. B. from "Assessing the Physical Condition of Children," N. C. Wetzel, *Journal of Pediatrics,* Vol. 22, No. 1, 1943, pp. 82-110:

Age (yrs.)	*Weight (lbs.)*	*Height (ins.)*
7.00	48	46¼
7.60	51¼	47¼
8.00	54¼	48¼
9.50	62¼	51
10.75	67¼	52½
11.25	70¾	54½
12.25	76½	56
12.50	77	56¾

Example II — Case L. F. from "Growth Measurement," *What's New,* Nov., 1946, Abbott Laboratories:

Date of Birth: February 18, 1932

Date of Observation	*Weight*	*Height*	
11/29/37	42 lb.	43½ in.	School Record
6/ 4/40	52 lb.	48½ in.	
11/ 4/42	56½ lb.	51½ in.	
3/ 3/43	55¾ lb.	52 in.	
12/23/43	53 lb.	52½	Adm. Meas.
1/ 1/44	25.5 Kg.	133 Cm.	
1/30/44	27.5 Kg.	133.6 Cm.	
2/18/44	29.5 Kg.	134.0 Cm.	
3/12/44	32.2 Kg.	134.6 Cm.	
5/22/44	34.3 Kg.	136.4 Cm.	
7/19/44	36.2 Kg.	139.9 Cm.	
10/20/44	88 lb.	56½ in.	
11/11/44	92½ lb.	57½ in.	
5/20/45	99¼ lb.	59 in.	
9/15/45	103 lb.	59⅞ in.	

Steps in preparing a grid.

(It is suggested that practice grids be plotted in ink as greater care and accuracy results. Errors may be removed easily with a sharp razor blade. A pen with a fine point is convenient for making entries on the grid.)

1. Enter child's name in space in upper left-hand corner.
2. Enter child's birth date in space below name.

3. Circle "M" or "F" in upper right-hand corner indicating whether child is male or female.
4. Enter available data in box on left-hand side of grid. In each instance enter date measurements were taken, weight and height in proper columns.
5. For each measurement enter point on physique channel section of grid. Weight is found on vertical axis, height on horizontal axis and point is entered on panel. (It is suggested that plotter learn to locate dots without use of rulers, triangles, etc. While this is more difficult at first it results in greater speed in plotting after a little practice.)
6. Read developmental level for point plotted directly from scale on grid and enter value in appropriate column to left-hand side of grid.
7. Calculate age of child at time of each observation. Ages should be entered in appropriate column in box to left. Ages may be recorded in years and months or years and tenths of years. (e.g., 8-1 or 8.1, 8-2 or 8.2, 8-3 or 8.25, 8-4 or 8.3, 8-5 or 8.4, 8-6 or 8.5, 8-7 or 8.6, 8-8 or 8.7, 8-9 or 8.75, 8-10 or 8.8, 8-11 or 8.9.)
8. On second panel of grid plot developmental level on vertical axis against age of child on horizontal axis and place point in proper position. (It is suggested that if a whole column of developmental levels and ages is to be plotted a file card be used to move down box with columns and to aid plotter in keeping his place.)
9. After all data are plotted determine pattern of the child's growth by connecting consecutive points (grids will appear neater and more attractive if lines are drawn freehand and are drawn not quite to the dots, e.g., ———.———.———. It is convenient to use a pen with a wider point for drawing these lines).
10. To see whether the child's actual growth curve has the right form determine on the growth schedule panel of the grid the point on the child's curve at which he was in the best position in relation to the printed growth curves. Through this point draw a dashed curve parallel to the printed growth curves. This is the expected growth curve for the child. Any difference between the expected curve and the actual curve may be emphasized by cross-hatching with a red pencil.

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If still available reprints may be obtained from

Miss Jean Mooney
NEA Service, Inc.
1200 W. 3rd Street
Cleveland, Ohio

Best to tell position to indicate reason for interest.

Charge may be made for cost of reprinting article.

Grid for Evaluating Physical Fitness may be obtained N. E. A. Service, Inc., 1200 West Third Street, Cleveland, Ohio.

* * * * *

Oregon Food Poisoning Outbreaks,—Food poisoning cases reported in Oregon numbered more than 700 during the first eleven and a half months of 1950, Dr. Samuel B. Osgood, Director of the State Board of Health Epidemiology Section, reported. The number of persons involved in individual outbreaks ranged from two who ate restaurant ham sandwiches to 150 who ate creamed turkey served in a college dormitory. Another attack, likewise attributed to turkey, which affected "about 60 to 70 persons," Dr. Osgood said, "again points up the need for public support in the maintenance of high sanitary practices," and Dr. William Levin, Director of the State Hygienic Laboratory, added that it was "certainly a good object lesson why inspection is necessary." Health Officers News Digest, November, 1951.

CONTRIBUTING TO HEALTH EDUCATION THROUGH HEALTH SERVICES

The value of health services increases many times when they contribute to the education of the child.

Testing:

Vision and hearing testing, and weighing and measuring are significant healthful living experiences when their purposes are explained beforehand and each pupil's findings are discussed with him individually. These data may be used in arithmetic class. There is added educational value when these findings are properly reported to parents, and plans are made for corrections.

Dental Exams:

The dental examination is educational when information about the teeth and what the dental hygienist is going to do is given prior to her arrival. The dental hygienist talks to each child as she examines him and has him hold a hand mirror so he can watch what she does as she explains her findings.

Special Programs:

Special programs of rheumatic fever prevention and tuberculosis control (skin testing and X-rays) afford excellent opportunities for specific health education, and bringing community health agencies into the school.

Immunizations:

Immunizations in the schools open the way for the local health department and the public schools to bring to the attention of the community the interesting story of the conquest of disease by science.

Health Inspections:

The semester health inspection, by the school nurse, provides her the contacts for both small-group and individual discussions of cleanliness, nutrition, skin infections, communicable disease, etc.

Health Surveys:

The health survey, by the school physician, provides an excellent setting for both small-group and individual conferences among pupils, teachers, parents, nurse and doctor.

Follow-Up:

The follow-up on the school physician's recommendations at school or in the home places special emphasis on understanding and action where and when it is most needed. Learning takes place most readily when a need is known, and effort is made to meet it.

Home Visits:

One of the best learning situations is when the nurse, sitting on a stool in a kitchen, helps a busy mother think through and plan for the health needs of her children.

First Aid:

The pupil coming to the school nurse with a health problem (stomach ache, skinned knee, etc.)has learning readiness. Then is the time to discuss cause and prevention.

Health Monitors:

Pupils helping in the nurse's office (first aid monitors) receive special training and experience through health services.

Exclusions:

Routine exclusions in communicable disease control afford opportunity to discuss the recognition, spread and isolation of the communicable diseases.

Sanitation Inspections:

A small group of students accompanying the nurse on a routine sanitation inpection of the school buildings and grounds learns about cleanliness, lighting, hazards, etc., first hand.

Personnel:

Virtually all contacts of the health personnel with school children can be made, in some way, to contribute to their better understanding and desire to live healthfully.

Environment:

Such qualities of the surroundings as a clean and attractive health room in each school, and pleasing personalities of the health personnel, contribute greatly to good attitudes and effective learning.

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EDITORIAL

School Health Survey,—There is in some areas of school administration, particularly among the advisers who are stronger on theory than on facts and operation, a crying aloud against school surveys; the word study, or some other "weasel word" being preferred. When funds are spent to disclose conditions, survey is the word of choice. The dictionary describes "survey" as "to view in its entirety, to view carefully and minutely, to scrutinize, to inspect." Anything less than this is inadequate—it tends to conceal bad situations and conditions, and largely to belittle good ones.

In some of its phases, the school health program is more than a century old. That phase having to do with health services in the schools is in its sixtieth year. Many communities and states are spending large sums to improve those school activities which tend to prevent disease and to improve the health of children in the schools.

What are the possibilities? What are the skills and activities that have been developed in this area of education? What should a good school health program include?

We may well discuss this program under four major divisions:

Health Education
Physical Education
School Sanitation and Safety
Health Services

In the field of health education, there are certain well recognized needs: a time allotment; a course of study; an authentic textbook—at least in grades above the third; an informed and skilled teacher who is up to the minute in her health information, and in the use of modern health teaching methods and materials.

In physical education, the survey should seek the correct answer to the question: are these facilities, these methods, and the objectives and procedures adequate to give the growing child the best possible use of his structure and vital organs to bring him to the most adequate body, powers, skills and attitudes to make him the best possible person and personality of which he is capable? Space is not available to go into details regarding this extensive program, but regarding it the surveyors should have objectives, ideals and knowledges.

Surveys in the area of sanitation and safety are badly needed. Many states have set standards for this phase of health protection, but the rules and standards often are ignored. Many school buildings have long outlived their usefulness and safety. Some of them are of the vintage of 1860 to 1870. These almost inevitably are educational misfits, unhealthful, and firetraps. Intensive, honest and fearless surveys are needed in this area.

We come to those phases of school health — the school health services — in which the great majority of members of the American School Health Association are most intimately interested, and within which most of them are working.

How successful are the efforts to control communicable disease? Are adequate records kept, so that physicians, nurses, teachers and administrators know how many and which children are immune to communicable disease? What efforts does the community make to bring about inoculations against these diseases? How does the percentage of these compare with other similar communities? What are the cooperations with teachers, parents, health and welfare departments? What are the community facilities for isolation of the infectious sick?

Are the school physicians, school nurses, dentists, and dental hygienists adequately trained or are they sufficiently paid so that the community can and should insist on adequate special training?

Do those controlling the health and educational program in the school realize that these activities are specialties in the fields of medicine and nursing? The needs and objectives in school health services are so great and so numerous that success is extremely unlikely if the point of view is a generality rather than a specialty in child welfare.

Is the pupil load per physician hour, nursing hour, and dental hour small enough so that the school administrator, the Board of Education, the parent and the community have a right to expect and to insist upon adequate protection for the children?

Is the correlation between the school health staff and the teachers, the administrators and other health and welfare groups close enough so that worthwhile results are possible?

In brief, a planned program, a concept of present conditions and a judgment of effectiveness demand an answer to three questions:

What are our objectives?
Where are we?
Whither are we going? —*C.H.K.*

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Report of Committee on Tuberculosis, American School Health Association, 1951,—Throughout the year the Committee on Tuberculosis continued to promote certification of schools with reference to tuberculosis work in progress. Several years ago Minnesota was selected as a demonstration state. The subcommittee which has this work has found it one of the most valuable projects ever undertaken in the long history of tuberculosis control. It has stimulated more interest in tuberculosis and has resulted in more activity in case finding among people of all ages and in prompt isolation of contagious cases than anything else that has ever been undertaken. Already 1350 schools have been certified and a great many others are about to qualify.

The State of Illinois certified its first school in 1951 and it is anticipated that this project will be extensively employed in that state in the near future.

Numerous inquiries have been made by workers in other states, where committees are desirous of establishing a certification of schools program.

It does not seem to have been made clear that the workers in each state can set up their own qualifications for certification of their schools. This was arranged because tuberculosis situations differ somewhat from state to state and therefore qualifications that might be suitable in one state might not be satisfactory for

another. It will probably be a few years before uniform qualifications can be made applicable to the entire nation.

In each state there is a subcommittee on tuberculosis of the American School Health Association. It is strongly recommended that these subcommittees institute the certification of schools in their respective states as soon as possible. The value of this project has been proved beyond doubt and its extension throughout the country would greatly hasten the eradication of tuberculosis. —J. Arthur Myers, M.D.

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ABSTRACTS

Third National Conference on Physicians and Schools,—The Third National Conference on Physicians and Schools was held at the Moraine Hotel, Highland Park, Ill., Nov. 6-8, 1951. The conference was sponsored by the American Medical Association through its Bureau of Health Education as the third in a series of conferences, the first two of the same nature having been held in 1947 and 1949.

State medical societies, state departments of education, state departments of health and national health agencies were invited by the American Medical Association to send delegates to the meeting. One hundred eighty-three participants, representing 129 agencies and organizations, came from 35 states, Hawaii, and the District of Columbia to attend the conference. Forty consultants of national reputation in the fields of public health, public education and medicine served as discussion leaders. Several foreign visitors on tour of the United States attended as observers.

Five discussion groups considered specific aspects of health services for school age children. Every effort was made to include an equal representation from the various agencies in each of these groups. Each group held three working sessions, during which specific recommendations on policies for school health work were formulated. At general sessions, Dr. Ernest Howard, Assistant Secretary and General Manager of the American Medical Association; Dr. Edwin S. Hamilton, American Medical Association, Board of Trustees; Clyde Parker, superintendent, Cedar Rapids (Iowa) Public Schools, and Dr. W. W. Bauer, Bureau of Health Education, American Medical Association, appeared as speakers or discussion leaders. One general meeting was given over to reports describing the school health activities of medical societies in selected states. The concluding session was devoted to reports of the recorders, who summarized the recommendations for the five discussion groups.

Suggestions made in discussion and committee reports indicate

school health service progress and progressive thought among the leaders:

Medical progress has brought about less rigid quarantine measures.

The doctor's function in the schools is to conduct preventive services for the benefit of all pupils; caring for sick children is the responsibility of the parents and family physician.

Health examinations have limited value unless an organized program of follow-up is established.

Conclusions regarding interscholastic athletic competition presented ideas that must be more heeded than they are at present in most secondary schools:

Interscholastic athletic competition presents abundant opportunities for the improvement of, or, conversely, for harm to the health of, competitors.

"Deplorable sanitary conditions" exist in some physical education plants, and unsanitary practices often accompany activities.

Teachers and teacher training came under discussion:

The teacher to carry out her responsibility in service to pupil health should have adequate instruction in these areas during teacher training with opportunity to use the knowledge during practice teaching;

If the teacher has not had this training during her preparation, she should be given "in-service" training.

There is great need for interprofessional understanding and co-operation between teachers, nurses, practicing physicians and public health personnel. (? the Health Council at the local level.)

Teacher colleges should require all teachers, especially those preparing for elementary school work, to have effective courses in health education. These should include opportunity to conduct health observation and screening tests on pupils.

Physicians, school administrators and communities must recognize the teacher's role in health appraisal.

The need was emphasized of having Medical Societies interested and active in the project if we are to have successful school health programs.

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Birth Injuries,—seemed responsible for half the mental retardation, convulsive disorders, and cerebral palsies in 419 children with these difficulties. In about one-sixth, there were probably hereditary or congenital causes and in another sixth the disorders seemed due to post-natal conditions. Behavior disorders in children without retardation, spasticity or convulsions might be due to milder degrees of brain injury at birth. **Michigan State Med. Soc. Journal, February, 1951.**

"Cola Drinks and Your Teeth,"—is an article in the June, 1950, Consumer Report. "Most of the products of the $700-million-a-year soft drink industry, including the cola drinks, contain as much as 10% sugar. That so much sugar promotes tooth decay is well known." At Cornell University another type of tooth damage has been studied—that of etching on the teeth from the acids in the soft drinks. On four comparable groups of rats, observed for six months and fed various liquids, distilled water did nothing to the molar teeth, tomato juice etched them very slightly as did orange juice, but the rats on cola type solutions had the molars eroded down to the gum line. The first sign of such damage to the enamel of human teeth is sensitivity to hot, cold and sweet substances. The Mayo Clinic has noted that fillings come out and decay seems accelerated when cola drinks are used heavily. Professor McKay at Cornell concludes that though the research was done on rats "it would seem safe to say, however, that many members of the bobbie-sox set, baseball fans, and people in the South for example, who may drink half a dozen bottles or more a day, are endangering their teeth." From Bulletin of Health Information, Health Service Department, Denver Public Schools.

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REVIEWS

The Public Health Nurse and Her Patient. *Ruth Gilbert, R.N.* Harvard University Press, Cambridge, Mass., 1951. 348 pp. Price $3.75. A text in the field indicated by its title, presenting chapters on: Mental Hygiene in Public Health Nursing; Teaching Health; Nurse and Maternity Patient; The Child in His Family; Nursing the Sick Patient; Relationships with Co-Workers; plus an extensive Bibliography.

Interesting, factual, and psychological, and very much worthwhile.—*C. H. Keene.*

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Speech Rehabilitation In Cerebral Palsy. *Marion T. Cass,* Columbia University Press. pp. 212. Price $3.00.

Few types of physically or mentally handicapped children require such special, scientific, and intensive treatment and care as the cerebral palsied. Formerly considered almost hopelessly handicapped, we now know that proper treatment begun in the very young has great possibilities of bringing about improvement.

After setting forth the Fundamentals as to the possible causes and types of Motor Re-educational Therapy, it launches into Speech Therapy, Methodology, Teaching of Sounds, and some more general educational problems.

Frequent footnotes and foot-of-page references greatly enhance the value of the text. A good Bibliography concludes the presentation.—*C. H. Keene.*

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"Physical Fitness of Champion Athletes," *Thomas K. Cureton, Jr.* University of Illinois Press, 1951. pp. 458.

This is a report on "the results obtained in 1948 and 1949 on tests of some United States Olympic athletes and national champions compared with similar data on normal young men."

It is very complete and of course technical. It gives, however, invaluable information on a large battery of tests. Its content is divided into four Parts: I. Research Objectives; II. The Physique Studies; III. The Motor Fitness Studies; and IV. Cardiac, Vascular and Metabolic Studies; the last Part including three-fourths of the contents.

This text is a mine of information, not only in its comparisons, but in the large number of tests clearly described and often illustrated.—*C. H. Keene.*

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The Curriculum in Health and Physical Education. *Leslie W. Irwin.* C. V. Mosby Company, St. Louis, 1951. 382 pp. Price $4.00, 2nd Edition.

The First Edition, appearing in 1944, went through four reprintings. This Second Edition and revision aims to re-evaluate "concepts and basic principles in the light of recent past experiences."

After discussing the Relationship of Physical Education to General Education, the Function of Physical Education and the Factors that affect the Activities in the curriculum in the various school grades—Kindergarten, Primary, Intermediate, Junior and Senior High School and Colleges—are presented.

Chapters are devoted to the Health Program, to the Safety Program, and to Organization and Administration. There is also discussion of Supervision, of Trends, and of the proper Relationships in cooperating agencies.

This text is loaded with information that makes it valuable to teachers and supervisors.—*C.H.K.*

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MEETING

American School Health Association and the American Public Health Association at Cleveland, Ohio, in 1952.